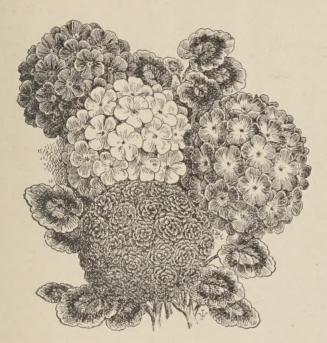
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GERANIUMS.

Geraniums! Geraniums!
With brave and steadfast eyes,
Ye face the darkest day that comes,
The bluest sunniest skies;
For shade and shine are one to thee,
And come what may your blooms are free.

So bright, so brave, so tried, so true, So sturdy and so gay, We somehow grow to look to you To cheer the winter day; Blow high or low the winter gale, Your loyal blooms will never fail.

No veil of myth or mystery
Hath romance round you flung,
No madrigal your history,
Nor song hath poet sung;
But bright, and plain, and every day,
You cheer us on our common way.

No crown of moss, no sweet perfume,
Nor lace-like verdure rare
Doth nature give thee; but thy bloom
Hath brightness and to spare;
And naught could better have been sent
To teach the lesson of content.
—Dart Fairthorne,

NEW SEEDS AND PLANTS.

In starting on a new year, the enterprising business man properly looks ahead to see what changes, improvements and new features can be introduced into his work to ensure and increase his success. In like manner the progressive gardener or farmer will reflect upon the changes that can be made to advantage in his work. He can prepare his land better by underdraining some pieces of ground that have proved to be too moist; he can subsoil where it will be an improvement over

shallow tilth; he can see where it would be to his advantage to keep ahead of his work and put in certain crops earlier, for the purpose of ensuring a larger and better yield and getting it into market sooner. So he may, and should, also, learn what new varieties of seeds and plants he can make a trial of, that will keep him in the lead and among the first of practical cultivators. Some of the leading new seeds and plants are here noticed for the purpose of directing special attention to the claims made for them and to show how they are superior to the articles of the same class now in use.

Among flowers the Double Sweet Pea, Bride of Niagara, is most conspicuous. No flower is a greater favorite than the sweet pea with its charming colors and fragrance. Our readers have already been told how this particular variety gives a portion of its flowers with two or even three large handsome banners spread out, instead of one as is usually the case. The lower parts of the flower are white while the banners are of a clear rose color. As the stems bearing the double blossoms frequently have also a single blossom, one can compare the two styles of flower on the same spray and will decide without hesitation upon the superior beauty of the double flower. There is no stiffness about it, as frequently is the case with a double flower; the lacey ruffles are graceful in every line. What effect careful breeding will produce in the future, in this plant, it is impossible to foretell. It is doubtful, however, that the number of banners will be augumented, probably a larger percentage of double flowers may result. It may be well to guard the public against spurious seeds of double sweet peas, for there is no doubt that such will be offered. Already engravings have appeared of flowers showing five, six, seven and even eight banners on a single flower. This is very enterprising, but let no one be deceived by the offer of such seeds. There is no such variety. It is a baseless fabrication and those who have made the illustrations have never seen a double sweet pea. The novelty is too attractive to let alone, and therefore spurious seeds will be offered.

ASTER PRINCESS ROSALIND. A low growing but vigorous variety, producing its flowers abundantly. These are of a bright rose color and very beautiful.

GOLDEN MACHET MIGNONETTE. This is similar in habit to the popular Machet variety, but instead of reddish flowers it bears those of a golden yellow color. It is an excellent variety for pot culture.

A DWARF NASTURTIUM is introduced under the class name of Liliput. It is very low growing, but produces its flowers abundantly, standing up well above the foliage. The flowers are of a variety of colors, and among them some new shades. It will be found very effective for borders and edgings.

VICK'S BRANCHING ASTER introduced two years since, scarcely needs a word to be said about it, as it is making admirers everywhere it is tried. It promises to be more extensively cultivated than any other variety. The vigor of the plant and beauty of the flowers give it the leading place among all known varieties.

Anemone Whirlwind which was introduced two years ago has proved most satisfactory to the public and the demand for it increases each season. A new variety of Anemone Japonica with colored flowers is introduced this season. This is A. Japonica elegans, having flowers much deeper in color than the original species. The color is a bright carmine, with a yellow

wind or those of the single white variety.

A hardy plant of great value is the orange colored Day Lily, HEMEROCALLIS AURANTIACA MAJOR. It is a strong growing plant, throwing up numerous stems to a height of two feet, furnished with long leaves, and bearing numerous flowers at the summit. The flowers are very handsome, lily-shaped, from seven to eight inches across, of a rich orange yellow, a very rare color in flowers. It is a notable addition to the hardy flower garden.

handsomely with the flowers of Whirl- stinted welcome. It is really a magnificent plant. It is vigorous in growth, with an abundance of beautiful foliage and handsome flowers. It is a showy plant for the conservatory and greenhouse, excellent as a house plant, and can be used to advantage mingled with other foliage plants. Those who have not tried it should not hesitate to do so, for its freedom of growth ensures its success under almost any circumstances.

A new Scarlet Carnation is offered A hardy plant receiving attention this free growing and free blooming plant that and as a handsome foliaged specimen pot

center and dark eye. It contrasts very Souvenir de Bonn, has met with an un- some that they have many admirers and are preferred by many to the best double sorts. The color is a clear violet purple which does not fade, and the flowers are very fragrant.

STROBILANTHES DYERIANUS is a handsome foliage plant of recent introduction. It is a free grower, either in pot or open ground, forming a bushy plant some eighteen inches in height with large leaves of a metallic purple color with some shades of rose. It is quite different from any other plant, and will probably be under the name of Laura Vick. This is a much used in the future, both for bedding

plant.

Under the name of BLUE SPIREA a plant was somewhat dissiminated last spring which appears to be valuable in the open border. It is said to be hardy, but we are not so sure. Next spring that point may be better known. A better name for the plant might be Shrubby Blue Verbena, as it belongs to the verbena family, though not to that genus. It is, therefore, really neither a spirea nor a verbena. Its botanical name is Caryopteris Mastacanthus. It is of Chinese origin, grows to a height of two feet, having numerous branches. The leaves are opposite and clustered in their axils, are great numbers of small bluish or lavender colored flowers. which are the delight of the bees.

In regard to new varieties of small fruits it is necessrry only to allude to the Columbian Raspberry, the Rathbun Blackberry and the Pearl Gooseberry. Their merits have already been described in these pages, but it is difficult to convey an adequate idea of their real worth. In many respects they stand far beyond all other varieties in their respective classes, and it is a pleasure, in itself, to help to spread abroad through the land fruits of so great value-The Pearl Gooseberry is of Canada origin, very vigorous, hardy and immensely productive. T. F. Lyon, of the Michigan Agricultural

productiveness ten, and for quality nine, upon a scale of one to ten." These three fruits are all destined to be largely planted in the future, and are equally good for the private garden and for com-

mercial purposes.

The vegetable garden has some new THE CALIFORNIA VIOLET, first sent out acquisitions of value; the one most prominent is the EARLY LEADER TOMATO. This variety proves to be earlier than the very earliest of the varieties now in cultistems are long and strong, and bear flow- vation. At the same time it is well formed, ers of large size, and although they are and of excellent quality, and the plant is single, yet they are so large and hand- very productive. A few seeds were sent



MR. ALVIN F. RATHBUN AND THE RATHBUN BLACKBERRY. SEE PAGE 36.

been but little disseminated. It is a vigorous, upright growing plant, from two to four feet high, with handsome foliage. The flowers are bell-shaped, of a deep lavender or violet color and are produced in clusters from the axils of the leaves, there being several tiers of them up the

THE CRIMSON RAMBLER ROSE promises to be very popular. Its vigorous growth, hardiness, and free blooming habit in connection with the beauty of its crimson flowers make it very desirable.

The new SILVER-EDGED ABUTILON,

year is CLEMATIS DAVIDIANA. It is not a has proved satisfactory in every respect. Experiment Station, at South Haven, new plant, but is a valuable one and has It evidently has before it a brilliant future. Michigan, says: "I grade it for vigor and The color, a soft scarlet, is one that has been needed; the flowers have a delightful clove fragrance, and they are borne on long, stiff, erect stems; the petals are deeply fringed, and though the flower is very full it never bursts the calyx. A clean, healthy, handsome plant.

last spring, appears to have made a good market for itself. The plant is a strong grower with large leaves; the flower

out last spring to different parties for trial. Among these was a contributor to the Farm and Fireside, who makes the following statement in that journal in the issue of October 15, 1895:

For some years we have used the Early Ruby, although we continually kept finding fault with it-It was early, anyway, and fairly good besides. This year I tried the EARLY LEADER, and also planted largely of the New Imperial. mended as extra early. In the former we have an early tomato indeed. It sets its fruit even earlier than the Ruby, and this in great clusters from the start. It reminded me somewhat of the King of the Earlies, but the fruit is much smoother and much The EARLY LEADER, in short, is better generally. good enough, and it brings the early tomatoes. shall plant more extensively of it another year, and more sparingly of later sorts."

A contributor to American Gardening in issue of Aug. 24, 1895, has this to say: If we had planted a larger patch of the EARLY LEADER, instead of one or two dozen plants, we would have been able to supply the whole neighborhood with tomatoes at a time when they were in ready demand at fancy prices."

This tomato stands to-day THE LEADER among tomatoes.

Those who admire radishes for their beauty of form and color, features which make them highly attractive in furnishing the breakfast table, will be pleased to learn of an olive shaped variety which is of a golden yellow color, forming a harmony of color with the scarlet and white varieties. It is known as the Golden Yellow Olive Shaped.

THE GREEN MOUNTAIN SQUASH will henceforth dispute the palm with the Hubbard as a winter variety, and probably the general opinion will be that it is superior for all cooking purposes. It is larger and better in appearance than the Hubbard. It should be tried by all those who like a good winter squash.

In potatoes some new varieties are offered having excellent points, and are worthy of trial by those interested.

In noticing these new varieties, something is indicated of the year's advance in horticulture, and it is believed that the different subjects here described will, by their own merits, hold the positions which have been assigned to them.

** A SKETCH OF THE LIFE OF LINNÆUS.

N his return to Upsal, he was elected a member of the Academy of Sciences, but being as poor, financially, as when he started on his journey, he began giving a course of public lectures on chemistry, mineralogy and botany, which became very popular, and promised him the means of subsistence. There was, however, a certain young professor, Rosen, who became jealous of the growing popularity of Linnæus; he managed to have a law enforced, which prohibited any one from giving public lectures who had not taken his degree.

This was a tremendous blow to Linnæus, who was thus forced to give up the means of earning his livelihood. He flew into a desperate passion, and "waited for Rosen outside the building. On his ap- struggle and discouragement he had still

pearance Linnæus drew his sword and devoted himself to botany. He now would have thrust it through his enemy had not others prevented it." And had not influential friends interceded in his behalf, he would have suffered much in consequence of his rashness. He had not money sufficient to enable him to take his degree, and now that he was prohibited from giving lectures, he knew not where to turn. Some of his former pupils were planning at this time to make some excursions through the mountains and they invited Linnæus to head their party. He was glad to accept their invitation, but upon his return he was as poverty-stricken as before, and he says in a letter to a friend:

"I took up my residence in Fahlun and began to give lectures in mineralogy. The physician of the place, Dr. Moraens, was a man eminent for his learning and skill. He grew fond of me. I visited him

traveled through different foreign countries, as was the custom then previous to taking a degree. Everywhere eminent botanists received him kindly. Among the eminent naturalists at Hamburg whom he met was a certain John von Spreckelsen, who had a great library and collection of natural curiosities. It had been believed quite universally, that this Spreckelsen had in his possession a most singular phenomenon. This curiosity was thought to be a wonderful monstrosity, namely, a serpent with seven heads. Linnæus very soon discovered, however, that these extraordinary heads were ficticious. He found that they consisted of nothing but the jaw bones of weasels artfully covered with serpents' skin. This discovery involved him in quite a dilemma, for it seems that this monster was deemed of great financial value, and



The Rathbun Blackberry hanging on the stems and filling a common quart strawberry basket.

See page 36.

requently, and always met with an ami- Spreckelsen had borrowed some three cable reception. He had two daughters. Sarah Elizabeth was a beautiful girl. I saw her, was amazed at her beauty, and fell in love. I won her heart and she promised to be mine, but as a poor man, I was much perplexed to ask her of her of her father. But at last I ventured. Moraens consented, and refused. He loved me, but not my uncertain and adverse fate. He finally declared his daughter should remain unmarried three years longer, and at the expiration of that time he would give his ultimate decision."

And so with the little money he had saved and an additional hundred dollars which "Sarah Elizabeth" gave him, he went away to take his degree and seek fame and fortune with love as an added motive power. During all these years of thousand marks, pledging this seven headed-serpent as security for the loan. The affair created quite a sensation, and the amusing part of it is, that Dr. Yænisch, an eminent naturalist of Hamburg, advised Linnæus to quit Hamburg with all possible speed, and thus avoid useless delays and litigations. Linnæus acted upon this advice, and we are not informed whether the seven-headed serpent survived the shock of exposure or not. At Leyden, Linnæus visited Gronovius and showed him his "Systema Naturæ," which so pleased him, that he had it published at his own expense.

In order to better appreciate what this "Systema Naturæ" was, and also the binomial nomenclature which Linnæus perfected soon afterwards, let us take a very rapid view of botany from its infancy

years before Christ. Theophrastus, Dioscorides and Pliny were the most celebrated botanists of antiquity, and although the ancients were familiar with some thousands of plants, their collections were made without order or any special classification. Their descriptions were long and tedious and the names of plants consisted of a long train of Latin words which sounded like a conjuration of hobgoblins. Indeed the description itself served as the name.

There were no botanical gardens, and herbariums were unknown. In the early part of the sixteenth century, the Germans and Swiss had enthusiastic workers in botany, but still there was much confusion. Plants were described and redescribed and jumbled together promiscuously.

which dates back some three hundred sions. His ambition was gratified soon after by seeing his method adopted by many leading botanists. But Linnæus was a reformer and though his natural system was accepted and eulogized by many, it met with scoffs and jeers by many others. His ideas concerning the sexes of plants were condemned as heretical and immoral. So severe and bitter were the denunciations expressed by botanists, that Linnæus resolved to abandon botany entirely, and devote himself to medicine. He says in a letter to a friend at this time: "Every one laughed at my botany. No one could tell how many restless nights and toilsome hours I had bestowed on it. I began to set up for a practitioner, but my success was slow. No one would even employ me for a servant's cure. But after many cloudy days the lucid sun shone through my obscurity. I rose, was called

as outward circumstances could contribute to his happiness. He had six children, his oldest son, also called Charles Linnæus, succeeded his father in his professorship at Upsal. The eldest daughter also acquired a learned reputation.

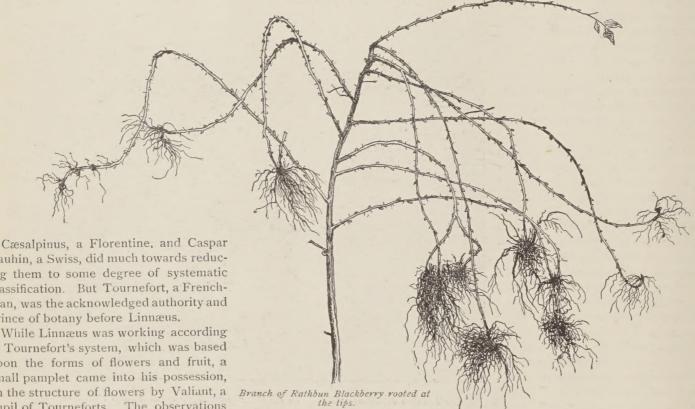
Linnæus was granted a patent of nobilîty in 1761 from which time he was known as Sir Charles Linnæus, He was the monarch of natural science. The highest honors were heaped upon him by every

He died in 1778, and his remains were committed to the tomb in the Cathedral MRS. W. A. KELLERMAN. at Upsal.

Columbus, Ohio.

THE RATHBUN BLACKBERRY.

Our readers have already been very fully informed of the origin and character of this new fruit. That it has important



Bauhin, a Swiss, did much towards reducing them to some degree of systematic classification. But Tournefort, a Frenchman, was the acknowledged authority and prince of botany before Linnæus. While Linnæus was working according

to Tournefort's system, which was based upon the forms of flowers and fruit, a small pamplet came into his possession, on the structure of flowers by Valiant, a pupil of Tourneforts. The observations made in this work by Valiant first led Linnæus to dream of a new system of his own. He was continually examining plants, noting the number of stamens and pistils. The sexes of plants occupied his thoughts night and day and his "Systema Naturæ" was the outcome of all this working and thinking.

He based his divisions of plants on the stamens and pistils. It was an artificial classification but it was a key or an index to Flora's vast volume. After visiting many persons of note, Linnæus went to Holland where he soon afterwards took his degree. He now received an offer from Dr. George Clifford, a wealthy banker, who had a very fine museum and botanical garden, and these were placed under the care of Linnæus who was extremely happy in this position. He published several works at this time, his innovations creating widespread discusin the morning till late at night I visited the sick and earned money. I renounced botany a thousand times and resolved to destroy my collections forever. But after a short time I was appointed physician to the navy and botanist to the king."

And now since he had secured both position and permanent income, he went in quest of 'Sarah Elizabeth,' who had waited not only three but five years. The ultimate decision of her father being favorable, they were married and lived in Stockholm until 1740, when Linnæus became professor of botany at Upsal. He the day. In the words of his biographer, "Science streamed with peculiar pleas-

to the bedside of the great; no patient merits is evident to all who are acquainted could be cured without me. From four with it. As a fruit of very great excellence it surpasses any blackberry that has yet been produced; and with its high quality it combines other most desirable points. It is large, has small seeds, is sweet and soft to the center, bears shipping well, holds its color; the plant is very vigorous and productive and has the desirable hardiness. The illustrations presented on this and adjoining pages will enable our readers to form correct ideas in regard to some of these points far better than words can convey them. The engravings are all made from photographs and are correct representations. With was one of the most popular lecturers of the fruit is given the portrait of Mr. Rathbun, who for several years has nursed and watched the development of this plant antness from his lips." His life from this and who regards it almost with the affectime was pleasant and prosperous as far tion that a parent bestows on a favorite

child. The large size of the berries is shown in connection with the quart strawberry basket, and in two illustrations the feature of the rooting at the tips of the shoots, and in one is seen the strong, vigorous habit of the plant in its upright main stems. The shipping qualities of the fruit has been satisfactorily tested, and it presents a beautiful appearance in market.

THE MICHAELMAS DAISIES.

HE Michaelmas Daisies or Starworts, are botanically known as Asters. The genus is a most extensive one, embracing over one hundred and fifty species and varieties, and although a few of them may be considered rather undesirable for cultivation in the flower border, on account of a fancied weedy appearance, yet the greater number rank high among the most showy of hardy perennial plants, and possess merits that cannot and should not be overlooked. All are perfectly hardy, of graceful habit, and give a profusion of bloom at a time when the scarcity of hardy flowers is most marked, and the colors of the blossoms take a wide range,-all shades of red, white, blue, and vellow being represented, and the flowers remain a long time in perfection, a plant continuing in blossom for at least two months. I do not think too much can be said in their praise and they certainly should receive more care and attention than has been bestowed upon them. They are nearly or quite free from the attacks of insect pests, and will do well in almost any soil and situation, but should be given a good soil and an open sunny situation if possible, and during the winter months a mulch of coarse or littery stable manure can be applied to good advantage, and if the opportunity offers, copious waterings during seasons of drought will be decidedly beneficial. The plants are increased by division of the roots; this operation should be performed early in the spring and before the plants start into growth. The following are some of the most desirable varieties:

A. ALPINUS. The Alpine Starwort is a native of Europe and in cultivation grows about nine inches in height. It blooms during the months of July and August. The flowers are very showy, of a bright purple color and as they are borne on good stems, are valuable for cutting. One of the most desirable species.

A. AMELLUS BESSARABICUS is a native of Russia and grows about two feet in height. It blooms during August and September. The flowers are large, and in color deep purplish blue with an orange center.

A. CHAPMANII is a native species. It is of robust growth, attaining a height of four or five feet. It blooms during August and September, the flowers being very showy and effective. In color they are light blue and borne in immense broad branched heads.

A. LONGIFOLIUS FORMOSUS is also an are of a pure white and are produced in an American species, growing about two feet in height and blooms during the months of August and September, at which time the plant is completely enveloped with clouds of starry, deep rose purple flowers. Very distinct and beautiful.

A. NOVÆ ANGLIÆ. This is the popular New England aster and one of the most magnificent of all late hardy blooming plants. Under favorable circumstances it will attain a height of from five to six feet. is an American species, growing about

flat open heads.

A. Sibiricus. This pretty dwarf growing species is a native of Siberia and grows about nine inches in height. It blooms during the months of September and October and during that time is completely covered with showy, clear pink flowers. A very distinct and desirable species

A. SPECTABILE. The showy starwort It blooms during the months of Septem- two feet in height, and blooming during



Rathbun Blackberry, showing upright growth of stems and drooping habit of tips.

ber and October. The individual flowers are about two inches across, of a deep violet purple with a bright yellow center.

A. NOVÆ ANGLIÆ ROSEA is a most charming variety of the above and is identical with it in all respects, except the color of its flowers which is a rich pink.

A. PTARMACOIDES is popularly known as the "bouquet aster." It is an American species, growing about eight inches in height, and blooms during the months of September and October. The flowers

September and October. This is one of the choicest species, the dark blue flowers being about two inches across and borne in large numbers.

A. Townshendi, from Colorado, grows from two to three feet in height and is a grand and beautiful species. It is a remarkably free flowering variety producing in masses large rich purplish blue flowers with orange yellow centers.

CHAS. E. PARNELL.

Floral Park, N. Y.



In this department we shall be pleased to answer any questions relating to Flowers, Vegetables and Plants, or to publish the experiences of our readers. JAMES VICK

Columbian Raspberry.

The Columbian Raspberry I purchased of you late last spring has done remarkably well. I measured it yesterday (October 18.) The main stem measured fifteen feet, branches together with main stem make rod feet of growth this season, besides picking half a pint of berries

Rockville, Conn.

Jelly From Japan Quince.

Opening your November MAGAZINE at Letter Box I steal time to say for you that there is no finer jelly in the world than that made from fruit of Japan Quince. It is also a superb fruit to put in drawers. The fruit never rots, and its delicious perfume permeates clothing after it is a year old. E. C. POWELL. Clinton, N. Y.

Water Lily.

I got a water lily from you last spring and made a pond for it about three feet square, and the water run in it all summer. I put good ground in it and it grew just a little. Plez se tell me whether I should take it up this winter c leave it in the pond. It does not freeze here. Wil it grow and bloom next sum-

The water lily will be all right if left in the pond during winter. It will probably start early next spring and bloom.

Mildew of Chrysanthemum.

My Chrysanthemum suffered from a kind of dry whitish mildew or mold which covered the leaves on both sides. I did all I could think of for their relief but did not succeed in arresting it. Can you tell what to do for it in case it appears next year.

One quarter ounce of sulphide of potash dissolved in one gallon of water makes a mixture which will destroy the mildew of Chrysanthemums when it is syringed on the plants.

Ginseng.

Being a constant reader of your MAGAZINE for a year, and seeing many questions answered, I take the liberty to ask this one: "Can Ginseng be grown in this locality, and if so, where can one get the seeds or plants?"
Fort Wayne, Ind.

We would refer the enquirer to Mr. George Stanton, of Summit Station, Onondaga county, N. Y. Mr. Stanton has been engaged for some years in the cultivation of this plant and has given in our pages a full account of his operations with it. The numbers in which the articles were published are now out of print, but possibly Mr. S. may now have some printed matter for distribution in regard to Ginseng and its cultivation, and perhaps can supply seeds or roots.

Little Gem Calla.

I have two of your Little Gem Callas. Have had them nearly three years. They were to be bulbs ready for flowering when you sent them, and they don't show any signs of flowering yet. They never have more than three leaves at a time. If you can, will you please tell me what to do with them, and

Sauquoit, N. Y.

It appears from the above that the Little Gem Calla in some hands continues to be disappointing, as quite a number have so reported from time to time. On the other hand some successes have al-

ience with this plant, and now we should soon. like to have some of those who have had fair success with it to state their experience for the benefit of other readers of this journal. Hoping to have some good responses to this request, we shall expect to publish them in our next number if received in time.

Maidenhair Fern.

Will you please in your MAGAZINE, give advice in regard to a maidenhair fern. I bought one last winter. During the winter its growth was unsatisfactory. It constantly threw up new leaves but others as constantly died. This summer it was put at the back of the east end of the piazza. weather of July gave it a start. It prospered with every storm and all summer continued a luxuriant growth. I kept a little water in the outer pot and later heat and drought did not stop its progress. When cold weather came it was brought in the house and did well until my illness, when it was left too near the register and allowed to get dry. to cut off all the top, and now it has only a growth of small feeble leaves. I have it in quite a cool room out of the sun and keep it wet. Ought it to be in a MRS. J. D. T. warm place?

Middletown, N. J.

The fern to give it a start again should be in a warm moist atmosphere. Its great need is moisture in the air. The dry air of the room was the cause of the feeble growth last winter. Now, although in a cool room, it is in a dry air. It needs more heat together with a moist air, and then when new fronds have put out and the plant is in good condition it could be kept in a room much cooler but still having a moist air. As a rule, the atmospheric conditions of the living room are not favorable to the health of ferns. If our enquirer had an enclosed plant window then the proper conditions of the atmosphere could be maintained.

A Seedling Lemon Tree.

Having seen in one of your MAGAZINES that information relative to plants and flowers is given, and feeling assured that what you say may be relied upon implicity, I desire to avail myself of your kind

Eight or nine years ago I planted a lemon seed. It sprouted and, with careful attention and nursing, it grew to be a strong, healthy looking tree, attaining a height of five feet or more, (the main branch,) when the leaves all dropped from it, and left it, to all appearance, dead.

We then cut it off to within about eighteen inches

of the ground, a short time after which it began to show signs of life again, until now it has grown into a beautiful specimen, having luxuriant dark green

The information which I seek is, "how to make it bear fruit?" If you can give any information relative to this and some points on how to attend to one properly, you will greatly oblige H. C. L.

Washington, D. C.

This lemon tree will probably soon come into bearing if it is kept in health. That is all that is necessary to attend to. The loss of its leaves at one time may have been caused by gas in the atmosphere, or possibly insects. Keep the plant in a moderate temperature during the cold weather-55° to 60°-give air frequently, and the air of the room should be moist. Keep free from insects. Spray the foliage every day or two with clear water. If insects appear use Sulpho-tobacco soap. Maintain the health of the

ready been recorded. We do not under- plant and it will produce its fruit when it stand the cause of the diversity of exper- is old enough, and that will probably be

Various Inquiries.

I-Will the seeds of the Sweet Pea, Bride of Niagara, keep well if not used until next spring?

2-Have you a fuchsia having colored leaves. I do not know the name of it, can you tell me?

3-My plants are covered with tiny white lice What will remove them? Tobacco smoke is effective but do not like to ask acquaintances to smoke them. We wash them leaf by leaf, but it is considerable

4-What is the best work on flowers and what is the best floral magazine?

5.- Does FLORAL GUIDE contain information in

regard to vegetables as well as flowers?

I hope next season to be able to have a more successful flower and vegetable garden than I had this season. MRS. M. T. Q.

Orland, Maine.

1-The seeds of Bride of Niagara, as well as other varieties of Sweet Pea offered by James Vick's Sons for the spring sowing of 1896, were raised last summer and have strong germinating powers, and will be in prime condition for sowing as soon as the proper season

2—The fuchsia referred to is probably the Sunray which can be supplied if de-

3-Sulpho-tobacco soap is one of the best insecticides. Every plant grower should have it and ready for use at any

4-For a general work on flowers, for the amateur, Home Floriculture will be found valuable, and VICKS MACAZINE is a reliable and useful monthly publication.

5-VICKS FLORAL GUIDE contains brief but accurate directions for the culture of nearly all desirable plants for the garden, both of flowers and vegetables.

White Worms in Soil

In the soil of some of my plants, I find a small white worm, less than an inch in length. I remember that in some number of your MAGAZINE, I saw a remedy for this trouble I am unable to find it at present. As I remember it, it was pulverized saltpeter. If you will kindly give me the remedy, or refer me to some one who will, I shall be greatly obliged.

H. M. H.

Ovid, Mich.

A number of different substances have been mentioned as efficient in the destruction of these worms, and at different times some of our correspondents have related their methods. One says, "I sprinkle a very little pulverized saltpeter on the earth in pots and then water with hot water; have found it very effectual in killing the little rascals." Another says: "I always can get rid of them in twentyfour hours. I use one teaspoonful of liquid ammonia to one quart of water, and use enough to wet the dirt well."

One of our correspondents gave the following recipe: A teaspoonful of copperas dissolved in a little water, and then enough water added to make two quarts. Water about twice a week, being careful not to get it on the foliage. Several applications may be necessary, but will do no harm as it is quite a fertilizer.

Here is another method: Take a com-

mon teacupful of warm soft water and dissolve enough soap in it to make a very slight suds. To this add two teaspoonfuls of kerosene, stir thoroughly and then apply to plants as you would in watering. An old German gardener advised the use of pepper tea. One teaspoonful of ground white pepper to one quart boiling water.

Some say that soaking the soil with lime water will kill these white worms as

surely as it will angle worms.

Branching Aster.

I send you a photograph I had taken of a pink Branching Aster, grown from seed you sent me. The instrument was not placed near enough to the plant to show the full size of the flowers, the largest being fully five inches across. The plant had more than forty blos-MRS. E. P. HOWE. soms.

Branching Aster as a Pot Piant.

I grew Vicks' Branching Aster for the first time this year and am delighted with it. It stood the heat and drought of last season remarkably well and furnished a good crop of bloom. But it is as a pot plant that I found it most valuable. I gave the plants eight inch pots and one specimen a ten inch pot. This last was a noble plant and bore fifty-three large perfect blossoms, averaging three and one-half inches in diameter, and of a beautiful rich purple. The others produced from twenty to forty blooms, all perfect, of large size and white, pink and blue in The soil was a good, color. rich garden loam and they had liquid manure once a week. The branching habit was very marked in these specimens and the plants grew a fine shape without any pruning. After they were in bloom I set them on the north side of the house in the shade of some evergreens, and they were the center of interest to every passer on the street for over three weeks. Being in pots it was easy to bring them under cover from early frosts and thus prolong their season of bloom. S. L. Indiana.

Vicks' White Branching Aster.

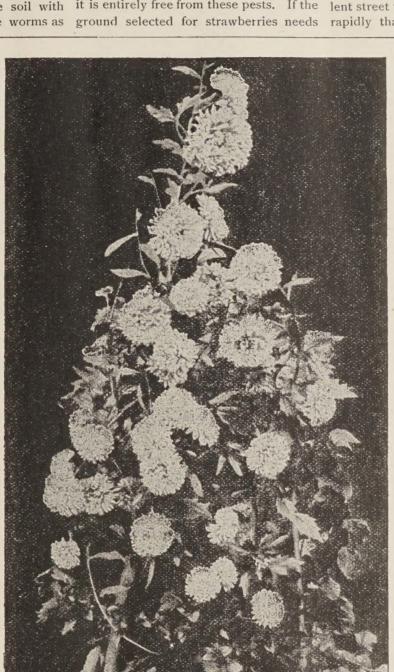
The only satisfactory asters I were of Vicks' White thing. The plants grew Branching. over two feet high, very bushy, and were full of large, pure, white flowers for a long while. I tried to save seed but they never ripen here. M. E. C. P. Baton Rouge, La.

Strawberry Plantation.

I expect in the spring to plant more strawberries. I have made new beds at different times in my garden, but now I wish to put out about a quarter of an acre, and do not know where it will be best to locate I have about two acres which has been used as a pasture for several years, and adjoining is some corn and potato ground. It is all good, dry ground, and in fair condition. But the question with me is whether I had better break up a piece of the old pasture or use some of ground that has been cultivated for a few years. Any advice on this point will be thankfully received. J. M.

Huron Co., Ohio.

By all means make the planting on the potato and corn ground. Sod land should not be planted to strawberries the same season it is broken up. The larvæ of the May beetle, and cut worms, are too destructive on such ground, and it is not until the second year after breaking up that it is entirely free from these pests. If the



VICK'S WHITE BRANCHING ASTER, GROWN BY MRS. E. P. HOWE, SARATOGA SPRINGS, N. Y.

enriching use commercial fertilizers liberally.

Planting Street Trees.
Will you advise me in regard to setting trees on the street line? In our village many of the streets are planted with trees but there is no uniformity in the distances—that is, in front of some places they are set not more than fifteen feet apart, and on some streets as much as forty feet distant and more, and on others they vary at all distances between these I would like to plant trees in the spring along my street front, a length of more than four hundred feet, but am at a loss to know how to plant

when there is so great a difference in common practice. As the hard maple does well here I intend to plant it. The soft maple and the elm are also growing on our streets, and a few of other kinds of trees.

Seneca Falls, N. Y.

The hard maple is an excellent street tree when grown, but its growth is slow at first. The Norway maple is an excellent street tree and grows somewhat more rapidly than the sugar maple. Those

who have given the subject most attention have concluded that forty feet is near enough for the hard maple, Norway maple, and elm, when they are grown. The writer has watched the planting and growth of street trees for many years and coincides with the opinion in regard to distance as expressed above. But, there is another view of the subject. When the trees mentioned are planted at forty feet apart it will require at least twentyfive years for them to occupy the space, and in the meantime the desired shade in hot weather will be wanting more or less. To obviate this difficulty, whether maples or elms are planted, they can be set thirty-six or forty feet apart, and midway between them set a tree of the soft maple. The soft maple will grow rapidly and at the end of ten years the street will be pleasantly shaded, and at the end of twenty years the soft maple trees should be all cut away, leaving space for the further development of the trees that are to remain.

Potatoes, Raspberry.

A letter from Mrs. Thomas Berry, of Chittenden county, Vermont, mentions planting one Pound of Maggie Murphy potatoes in the spring and rais-

ing therefrom 82 pounds in September "of nice potatoes, some weighing one pound and a half." She states that the potatoes in all that region are scabby and wants to know the cause and remedy. The cause is fungus disease. For remedy see VICKS MAGAZINR,

May, 1895, page 110. Her Columbian Raspberry planted last spring is doing well, and information is desired about propagation from the tips of the shoots. It is only necesgation from the tips of the shoots. It is only necessary to bring the end of the new shoots to the ground and cover them with about two inches of soil. The shoots should be held firmly in place by peg or in some other way.

A wild blackberry is mentioned running on the ground, and inquiry how to train it. It is a Dewberry, and can be trained on a pole, winding the stems spirrlly around it and tying them at the top.



ROCHESTER, N. Y., JANUARY, 1896.

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Average Monthly Circulation.

Horticultural Meeting.

The forty-first annual meeting of the Western New York Horticultural Society will be held in this city, commencing January 22. The meetings of this society are of more than local interest, being attended by most of the leading horticulturists from all parts of this and adjoining states. The subjects discussed are those of the greatest importance to horticultural interests and especially in regard to fruit growing. Some of the ablest professors connected with the Agricultural Department at Washington and with the experiment stations of this state and elsewhere, are expected to be in attendance and take active parts in the meeting. Fruit growers who are alive to their own interests and desire to keep abreast of the times, in all that relates to their particular work, should not fail to be present. There will be three sessions a day for two days, and a great number and variety of subjects will be dealt with. Come alone if you must, but the better way is to come in companies from each neighborhood. It is the great horticultural gathering of the year, and every attendant will carry away with him new and valuable ideas, and encouragement and hope that will contribute to his material success in the future. Let there be a grand rally.

Apgar's Trees of the Northern United States.

We have received from the publishers, the American Book Company, of New York, a copy of a new manual just issued, bearing the above title. The price of the book is \$1.00. The author is Austin C. Apgar, Professor of Botany in the New

Jersey State Normal School. The work relates to the trees, both native and cultivated, growing in this country east of the Rocky Mountains and north of the southern lines of Virginia and Missouri. The subject is treated in a scientific manner, but with reference to the easy mastering of it by youthful minds. The preparation of the work shows great skill, and which could have been acquired only by one who, like the author, "has been a class teacher for over twenty years." An outline engraving of the leaf of each species of the tree is presented in connection with the description, and engravings are employed to illustrate all the elementary definitions. Only some general ideas of the structure and physiology of plants are given, such as are needed, leaving a more thorough knowledge of that portion of the subject to be acquired afterwards. The study of the trees as here presented is one which might easily be introduced into almost any of our schools. Pupils of twelve years and upwards and many younger, could easily be interested.

A bright teacher having no precious knowledge of botany might easily prepare himself, with this manual, to be an efficient instructor in relation to the trees that are seen all about us, and if only an hour in a week should be devoted to the subject, there would be no difficulty in holding the pleased attention of his pupils. The subject so pursued would form an easy introduction to the general study of botany.

Lespedeza Sieboldi, Miquel.

Under the name of Desmodium penduliflorum a brief account of this plant was given in these pages, a few months since. The *Gardeners' Chronicle* of October 19, has this to say of it:

"This is decidedly one of the most ornamental of autumn-flowering Leguminiferous plants, and this year it is especially fine, the sunny weather during the latter half of September having aided the development of an exceptional abundance of flower. fine autumn is, indeed, needed to show this shrub to best advantage. A large group of it in the collection of shrubby Leguminosæ at Kew has been fully in flower for the last four weeks. It is a plant of graceful habit, sending up each year from the stool strong, arching shoots five to six feet long, which on the upper part give off at each leaf-axil a slender panicle of rosy purple flowers. The plant dies to the ground winter, and as it is said to do this even in milder latitudes than ours, it would perhaps be more correctly described as herbaceous. It is hardy at It is increased by dividing the old stools operation which should be performed at intervals of a few years, in any case. The species is found in China and Japan, and it was from the latter that it was introduced by Siebold.

Michaelmas Daisy.

This term is used by some English gardeners as a common one for quite a number of species of aster, and by others it appears to be restricted to one of American species. The *Journal of Horticulture* in a late issue contained the following note:

This North American Starwort first assisted to illuminate the British parterre about the year 1833, it having been brought, says the *Rural World*, direct from Virginia by John Tradescant, jr., who visited

the new world for the express purpose of collecting plants, his father having founded a garden of the first consequence in those days at Lambeth, and being also appointed gardener to King Charles the First. Botanists have named this species Aster Tradescanti, in compliment to his memory; but it has obtained the more familiar name of Michaelmas Daisy from its flowerling about that season of the year, and the corollas being radiated and nearly of the size of the common daisy. It grows from three to five feet In height, and is, therefore, not calculated for the small flower garden, excepting to form a shelter and background to the more tender autumnal flowers. It affords the bees a late and almost a last resource.

Nicholson's Dictionary of Gardening gives Michaelmas Daisy and Starwort as the English synonyms of aster. There is probably some reasonable explanation of this varied use of the term, such as Tradescant's aster possibly being first so named, and afterward's the name extending to other species.

Honor to Whom Honor is Due.

The interesting sketch of Linnæus, concluded in this issue of our journal, is by Mrs. W. A. Kellerman, of Columbus, O. The signature of the author was accidently omitted, much to our regret, from the first part of the sketch in the December number. In the December number of 1894 there was a similar omission from an article, by the same writer, on the "Differentiation of the ear and tassel in Indian corn." Mrs. Kellerman is an instructive and entertaining writer, always welcome to our pages and to whom, as to all other contributors, we desire to accord full credit.

New Jersey Horticulture.

The New Jersey Horticultural Society holds its annual meeting January 2d and 3d at Trenton. This is one of the alive, wide awake societies, and we anticipate much pleasure in reading the report of its meeting.

Vicks Magazine-Wanted.

The publishers of this journal want a few copies of this magazine for January, 1894. Our own supply of it is exhausted, and we should feel greatly obliged if our friends, having this number to spare, would kindly mail it to our address.

Aches

And pains of rheumatism can be cured by removing the cause, lactic acid in the blood. Hood's Sarsaparilla cures rheumatism by neutralizing this acid.

"I had rheumatism so that I could scarcely lift my left foot. I began using Hood's Sarsaparilla, and after I had taken two or three bottles the rheumatism disappeared and has not troubled me since." E. R. WOLCOTT, 66 Bridge St., Springfield, Mass. Get only

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Hood's Pills are gentle, mild, effective.

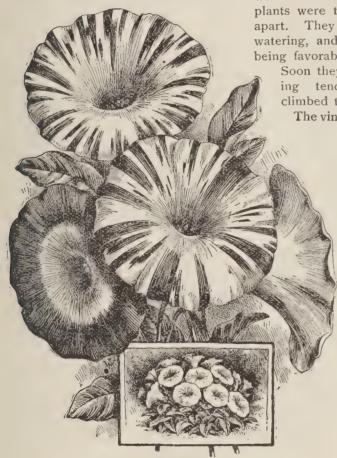
A SUMMER SCREEN.



England Quaker NEW was my grandmother. Leaving the invigorating sea breezes, the cod fisheries and the beautiful orchards of her native

Massachusetts coast, in her young womanhood she journeyed westward and found a home in a pioneer colony of Quakers in the wilds of New York.

As a young housekeeper, sorely did my grandmother miss the cultivated luxuries of her old home. The nearest approach to the red-cheeked apples in her father's orchard were the golden pumpkins growing between the stumps of the piece of cleared land of the new farm at the settlement. Weary indeed did she become



CONVOLVULUS.

of the pumpkin, and, I came near saying, almost ungrateful for its good natured abundance. But no, my grandmother was never that. Every dainty possible was prepared, and a sufficient quantity rigorously guarded, to "set on the table when we had company," for not infrequent were the visits of friends, and often strangers, who had traveled many miles by carriage or sleigh.

So, it is inherent in her children and grandchildren, this wish to serve our guests with the best; and in the summer months when they drift back to the old home for a brief visit, the sisters, cousins, aunts, friends, we wish everything to be at its brightest. Let the vegetable garden be ready with seasonable offerings and the flower garden blossom forth good cheer.

From a favorite window, the outlook

was not good-our domestic animals of chemists and physicians that most perthe farm-vard are necessary and valuable. but there are times when we wish to retire from their companionship. A screen about twelve feet long would be effectual, but a permanent hedge was not desired. Between lack of space and more modern flowers there seemed to be no place for the old-fashioned morning glory-but why not have a morning glory hedge?

The experiment was tried. Good, stout alder bushes were procured, one end sharpened and driven securely into the ground in a straight row across the opening we wished to screen. Previous to this, however, we had prepared a narrow morning glory bed, so it would be in front of the bush, and planted it thickly with seeds. When they were well up, the plants were thinned to about six inches apart. They were given an occasional watering, and soil and other conditions being favorable, their growth was rapid.

> Soon they began to throw out waving tendrils which caught and climbed the support offered.

The vines did not grow straight up,

but would twine about a branch a short distance, then waving in the air would catch another branch, until the whole became an interlacing network of vines. For a few hours in the morning our hedge was in the shade, and proud we were of it when covered with blossoms. It was at its best during July and August, and served, besides the use for which it was intended, as a background and to emphasize the beauties of other and more ambitious plants, and seemed to add a finish to the general effect.

And, again and again,

during the summer, did we hear, sometimes with the expression changed, but with earnestness and sentiment always the same,—yes, and we will acknowledge that within ourselves we were conscious of something lacking on the part of our summer visitors if we did not hear-"How lovely your flowers are!"

Anna E. Langdon.

PERFUMES FROM THE GARDEN. WHEN nature provides a bountiful supply of from

supply of fragrance for the garden, it seems a pity that more of it cannot be preserved for use in our houses during the long dreary months of winter.

Ordinary, manufactured odors can never take the place of the dainty fragrance of dried rose leaves, tips of the balsam fir tree, lavender, orris root, sweet fern and sweet clover. It has been determined by

fumes are healthy on account of the ozone which they contain.

Those which contain the greatest quantity, and are therefore the most healthful, are laurel, cloves, lavender, mint, lemon, anise, bergamot, thyme, hyacinth, heliotrope, lily of the valley, and mignonette. For this reason it is recommended that people who live near low, marshy places, should plant plenty of fragrant flowers on account of the oxidizing effect of the ozone which purifies the air.

Cinnamon is a great help in case of infectious disease, as it has been proved that no germ of disease can resist the antiseptic power of cinnamon more than a few hours. For that reason it is valuable in cases where there are such diseases, and a tea made from the sticks can also be used with good effect. Lavender has always been called a brain stimulant. Rosemary is said to strengthen the memory and sage is supposed to give health, strength and beauty when freely used.

There are many ways in which these things can be prepared so one can have the pleasure of their fragrance in the house in winter. An old-fashioned lady of my acquaintance always lays in a good supply of these fragrant things; her handkerchiefs always smell of orris root, her table linen of sweet clover, her laces of dried rose leaves, and her sheets and pillow cases have always an odor of honey. This latter fragrance comes from bumble bees which she catches during the season in which they are at work, kills them, and places them in the drawer with the bedding. It gives the articles a sweet odor, undescribable, but more like honey than anything else I can think of.

The way she prepares the rose leaves for the drawer of laces is this: In the first place two bags are made of china silk the exact size of the bottom of the drawerwhich is a small one. Only the sweetest roses are gathered, and they are dried carefully and, after a very little powdered orris root is added, the bags are filled.

They are only half filled so that they will lie almost flat, and then tied with very narrow ribbon like a comforter, the knots being an inch and a half apart. One of them is placed in the bottom of the drawer and the laces laid on it, and the other one covers them so they are shut in with the dainty fragrance and take much of it to themselves. A bag is made, in the same way, for the handkerchief drawer, and orris root alone furnishes the perfume so much like sweet violets, a little batting being used for filling the bag, and the powder being sprinkled plentifully among it.

The orris root can be renewed when the odor seems to be gone by spreading it out on paper and placing it in a hot dry place. Over a register is a good place, and, as it warms, stir it occasionally until it is thoroughly dried out, when the fra-

geranium, lemon verbena and lavender leaves are all saved at my house, and envelopes are filled with them and placed among clothing. Holes are made in the envelopes by pricking with a pin to let the fragrance out.

Every one knows how to make the filling for a rose jar, and nearly every one has one. It is a delightful thing to have in one's house, as the fragrance is refreshing and so lasting that one can keep the same filling for several years. Not every one knows how to get the best results in a room from a rose jar. When a strong fragrance is desired in the room, close all the doors and windows, and after opening the jar subject it to considerable heat. This sends the odor all over the room, and after the fresh air is once more let in, the fragrance is very pleasing and will last a long time. Another nice way of perfuming the rooms is by means of the Japanese incense or joss sticks. They are made in China and Japan and are used in their worship in the Joss houses, and also burned before the shrines in their homes. They come in bunches of fifteen or twenty sticks and can be bought at Japanese stores for a few cents. Put them somewhere where the fire can do no damage and then light them. They will burn about an hour, smouldering, but with no blaze, and the smoke they throw off smells much like sandal wood.

Pillows made of the tips of balsam fir are refreshing to lay one's head upon, breathing the air of the piney woods, and soothing one to sleep with its balmy perfume. Sweet clover also is used for filling pillows, as also is lavender. A friend of mine had a fragrant pillow which she always called her "olla podrida," (miscellaneous collection) pillow. For the bulk of the filling fir tips were used, but mixed with it were sprays of every fragrant herb to be found, lavender, thyme, sage, sassafras and bergamot. It made a curious medley but the odor was pleasing and no one could tell what it was until told. A hop pillow is not agreeable to every one, and perhaps cannot be recommended for its fragrance, but it is one of the best known remedies for sleeplessness and can be used for a long time without being renewed. Those of us who are blessed with a grate, where we can have an open fire at some seasons of the year, can save many small scraps which will produce a fragrance in our rooms. Small pieces of the branches of the wild cherry, tips of evergreen, cedar and juniper berries, plum, cherry and peach pits and the hard, woody stems of lavender. These latter are often made into small fagots, being plaited together with narrow strips of fancy paper. They have a charming appearance when made up in this way, and the fragrance is much stronger than one would suppose it could be from burning such dry sticks. Doubtless there are many

the same way, and we can find them out the sachet. Sachet powder can be bought by experimenting.

Lavender leaves, as well as those of rose geranium and lemon verbena, can be saved and an oil made from them which is rich in perfume. This oil can be used as it is, or diluted with alcohol and made into cologne. It is made in this way: Take a wide mouthed bottle or jar with a tight cover, and put in the bottom of it a layer of cotton which has been soaked in pure olive oil. On this pack the leaves and, when they are in, put another layer of the oil soaked cotton over them. Close the bottle tightly and put it away for two or three months, and then the oil can be squeezed out of the cotton into a small phial, and will be found strongly impregnated with the perfume of the leaves. Sachet bags have been in vogue a long time, and from present indication, will

grance will be as strong as ever. Rose other odorous things that might be used in every article hung there has the odor of in several odors or a suitable one can be made at home, which is very agreeable and much cheaper. Take five ounces of air dried rose leaves, four ounces of powdered orris root, ten grains of musk in powder, one ounce of lavender flowers and five grains of civet. Mix thoroughly and keep in a tightly corked bottle until ready for use.

The use of perfumes, like everything else, can be carried to excess, but in the case of the natural products there is less danger of it. The perfume is not so strong and lasting as when made with spirits, but the delicate fragrance is more pleasing to most people. In making preparations for a garden, one can, with a little forethought and care, provide nearly all the desirable fragrant plants which can be employed in the preparation of homemade perfumes.



A FIELD OF MAGGIE MURPHY POTATOES,

continue to be great favorites among the ladies. They are made in all shapes and sizes according to what they are to be used for. For a glove box, one in the form of a tiny glove is very appropriate; for a handkerchief box, a dainty one in the form of a square soda cracker is often used. The latter one is made of white satin, about three inches square and of the thickness of a cracker, and tiny stitches catch it down at intervals to represent the places where a cracker is pricked before being baked. Corset sachets are small, usually one by two inches and are sewed inside the corset. Those made for waists and bodices are a little larger and are pinned inside the garment when not in use. Larger ones are made for trunks and drawers which contain clothing, and some people have a large one the size of one side of a closet or wardrobe, so that

A FIELD OF MAGGIE MURPHYS. HE illustration presented on this page

of a field of Maggie Murphy potatoes was prepared from a photograph sent by the raiser and from whose letter received at the same time is made the following

I send you by this mail a photograph of my potatoes. I do not think it does them justice; those we have in our hands look all right, but those in the rows look smaller than they are, but they are as you see, nearly all large, no little ones to speak of.

Davis City, Ia.

We think our readers will agree that the showing is good enough, and indicates the great productiveness of this var-

The reason that the Maggie Murphy is so productive is, evidently, because most of its tubers grow to a large size. Small potatoes of any kind are of little or no use. The vigor of the plant, therefore, is a most important factor for the production of a large crop.

ALL ANIMAL LIFE DEPENDENT ON PLANTS.



T is one of the greatest mysteries of inorganic chemistry that cholophyll, the green coloring matter of plants, has the unique power among substances of breaking down minerals into food, or build-

ing them up in our living tissues. The great rock or stone breaker of our world is not Thor with his hammer of force, but green leaves, glowing flowers, and mellow fruits in their earlier stages of green babyhood with their convertive suavity. Chlorophyll is the peculiar possession of the vegetable kingdom, and forms the chief and only contact-the vital link between it and all the higher animals and their daily and hourly supply of food. Every grain of matter before being eaten by man, or let us say, every movement of the body, every stroke of work done by muscle or brain, depends on the contribution of a plant or an animal that has already consumed a plant and converted the product into meat, cheese, butter, eggs or other food and conveyed them to us all the same, only second hand. Remove the vegetable kingdom, or interrupt the ceaseless flow of its unconscious benefactions, and the whole of the higher life of the world would stand still or end in death.

Flowers, fruits, seeds, and roots are our food. The flower, botanically, is the herald of the fruit—the fruit, botanically, is the cradle of the seed. The animal life of the world to-day is suspended on these. Withhold fruit, withdraw seeds, and the mighty pulse of animal life ceases to beat, the intellect to plan, the brain to think. For all animals in the long run live on fruits and seeds at first or second hand. Three-quarters of the world of humanity to-day live upon rice. Of the other fourth, three-fourths live on grains, wheat, barley, oats, millet, peas or beans. Rice and all these are seeds, grains, garnered stores of starch, albumen, food rock which plants provided for and bequeathed for their offspring, and which we arrest on nature's great highway of production and consume ourselves.

It is equally true of the fruits and roots, leaves, and other foods of the world as of the seeds and the cereals, that they come to us either directly or indirectly through plants. Our sugar and honey are but the sweet juice or nectar of our flowers, the grape, the peach, the melon, the orange, the fig, the concentrated essence and strength of various food manufactures.

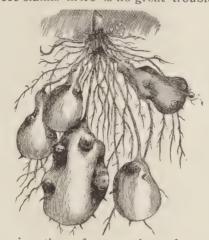
We owe our drink to the same agencies. Our water is distilled, distributed, and kept sweet and clean through the ministration of plants and flowers. But plants do more than feed and adorn us and our homes. They likewise build our homes and furnish material for all our trades and manufacturers.-D. T. Fish in Journal of Horticulture.

JERUSALEM ARTICHOKES.

WRITER in the Western Rural says that the Jerusalem Artichoke is now being grown quite extensively in northern Michigan, and is proving to be excellent feed for hogs, requiring only a little corn at the last in the fattening process. A yield of 600 bushels to the acre is often realized.

Horses and cattle will eat them as readily as grain, and milch cows show a large increase in milk by feeding artichokes.

He claims there is no great trouble in



cleaning them from a piece of ground. "Simply follow the artichoke crop by a cultivated crop, or plow under when they have attained a foot in height in the spring; either plan will destroy them."

Planting can be done late in the fall or early in the spring. Plant in rows three feet apart and eighteen inches in the row. Cultivate the same as corn or potatoes; dig in the fall and bury or put in the cellar. If preferred, pigs can be turned in and allowed to root and eat the tubers.

Any one wishing to become proficient in the handling of poultry, should send ten cents, in stamps, to Des Moines Incubator Co., Box 72, Des Moines, Iowa, for their book on Practical Poultry Keeping.

PATENTS Thomas P. Simpson, Washington D.C. No attorney's fee until patent obtained, Write for Inventor's Guide.

APE-WORM ALIVE in 60 minutes with head, or no charge. Send 2c. stamp for Pamphlet. Dr. M. Ney Smith, Specialist, 1011 Olive st., St. Louis, Mo.



BERKSHIRE, Chester White, Diersey Red & Poland China Pros. Jersey, Guernsey & Holstein Cattle. Thoroughbred Sheep, Fanor Poultry, Huuting and House Dogs. Catalogue. S. W. SMITH, Cochranville, Chester Co., Pa.



FLOWER SEEDS FOR JANUARY.

It is well to start pansy seeds early in order that the plants may be sufficiently strong for early spring planting out. They can be started in a box or pot any time the present month. Use light, fine soil, make the surface smooth and sow the seed thinly, either in rows, or scattering it over the surface, then give a light covering of soil - an eighth of an inch is enough. Moisten the soil by spraying on some water in the gentlest manner. Afterwards cover it with a piece of coarse paper to prevent evaporation, and afterwards, if the soil becomes dry, sprinkle water on the paper and it will soak through without disturbing the seeds. As soon as the little plants begin to push out remove the paper and set the pot where it will have a good light. The temperature must be kept low, about 50° at night and 60° or a little more in the day time. Verbena and Cyclamen seeds can also be sowed this month.





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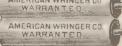
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VICK'S MAGAZINE of my article on seeds, I have received numerous inquiries touching points not fully brought out in the article referred to. If I am allowed the space I will answer in the same

journal such of these questions as may be of general interest.

A gentleman writes, asking: "Is it impossible for a seedman who issues a showy catalogue with exaggerated pictures, to have for sale first-class seeds?" It is certainly not impossible for such a one to sell good seeds, but on general principles we are apt to distrust one who misrepresents a thing or who tries to mislead in any way, and I have found by actual experience that the seedman or florist who resorts to misleading statements and pictures is pretty sure to sell an inferior grade of stock.

Another asks: "Is it best to buy all of my seeds of one first-class firm?" In general, yes, if the dealer selected be of the best and most reliable. He then asks: "Who is the most reliable seedman in America?" I do not pretend to be able to answer that question, though I have settled it as far as my own practice is con-

If in doubt about the vegetable seeds best adapted to your section of the country, correspond, enclosing stamp for reply, with a reliable seedman and he will furnish you with the proper information on the subject.

A lady writes that she loves flowers but cannot afford to buy the seeds, but can get common stock of her neighbors and from her own plants. She then asks: "Shall I stop raising flowers until I can afford to buy seeds?" Now, I think that all should grow flowers in and about their homes, and if they cannot afford to buy seeds, they ought to exchange or raise seed for themselves.

I received several letters containing such expressions as this: "We raise our own flower seeds and our flowers are good enough for us." I beg leave to remind these friends, and all others like them, that in my former article, I wrote for those who are desirous of growing only the best and finest. Yet it is to be hoped that those who have been satisfied heretofore with anything, will be led to want something better, for to see a better class of vegetables and flowers-especially flowers in our own gardens-will be gratifying indeed to all who are interested in the happiness and welfare of our nation.

Another person writes: "I shall not pay more for seeds for the sake of buying from a house with a reputation. The reputation is not worth anything to me." That is all right, buy your seeds where

INCE the late publication in that seed of the best quality is more costly, consequently the cheaper seed is that of inferior quality. Many of my friends complained to me this year that their aster seed did not germinate. Ninetyeight per cent. of the seed I purchased, germinated and produced good plants. It was a difference of a few cents at the beginning, but at the end the difference was between a fine display of asters and no asters at all. Which do you prefer, my reader?

> Many have complained in their letters that the florist's seeds do not germinate as readily as the common home grown seeds do. It is quite possible that high cultivation and frequent hybridizing will produce seed which is weaker in germinating power than the common degenerated specimens. But one plant of the former will probably be far more highly prized than a whole yard full of the latter, at least it will be by people who know and appreciate a really good thing. But the fault here is, more often, that the grower fails to give the seed the proper

A very common error is the one suggested by the following remark: "I get seeds of some of the improved and new plants from a florist, but the dear oldfashioned single flowering plants come just as well from self-sown seed or seed I I pick from them myself. What do you think of that?" Well, I think just this: The old-fashioned flowers spoken of (although I don't like the term in the sense applied), should be grown from firstclass seeds if you really desire to have fine specimens.

A gentleman in Ohio wrote me that my advice was good for market gardeners who must raise that which they can sell, but for the private garden and home use, anything will do. I did not write for the especial benefit of the market gardener; he will take care of himself, and if he neglects to raise a good article no one is obliged to buy from him. But the "advice" is for the benefit of the home garden. "If a thing is worth doing at all, it is worth doing well," is as true in the home garden as much as any place, and, whether it be vegetable or flower, it ought to be as nearly perfect as possible, and one of the most essential elements contributing to that perfection is a prime quality of seed. Let us get the best we can, for the expense is a small thing after all, and exceedingly insignificant, as compared with a fine crop of vegetables of superior quality, or a superb display of flowers of varied tint and large size, perfect blooms. Get good seed. S. L.

New Haven, Ind.

MORE ABOUT THE GLADIOLUS. HE interesting article of L. E. R., in the Magazine for December, will be enjoyed by the hosts-increasing in-

ANOTHER CHAPTER ON SEEDS. you like, but it is well to bear in mind stead of diminishing-who are charmed by the gladiolus. One or two things, however, are not as clear as might be wished. It is well, almost indispensible, indeed, to change the situation every year, not planting in the same place for two or three years afterward. And in the choice of soil, while a fertile, sandy situation is best, any good garden soil answers, remembering that the application of fresh manure is injurious, producing disease.

The gladiolus dislikes shade, and the planting should always be in full sunshine, and it is best to plant early in April. Much of the deterioration observed has in all probability come from error at these two points. Yet it is well to make four or five plantings, at intervals, until about the middle of June, sacrificing, if need be, some bulbs in order to have a succession of bloom.

Another cause of the supposed deterioration is in the feeble constitution of certain varieties. There is great difference in this respect. Some of the new varieties raised from seed grow slowly and die after once blooming. Some never reach the blooming stage at all. On the other hand, some, like one here, now four years old, and known as No. 622, are very robust, growing vigorously, and blooming profusely, and producing many bulbels, as Prof. Bailey terms them, the small ones like peas, found between the old, effete bulb and the new one that forms on the top of it.

As to these bulbels, the most of those we have planted the next spring after taking up in the fall, we have never seen again. But those which have been kept a year longer-eighteen months from taking up-and then planted have grown and done well. This seemed a strange procedure when we first read it in Rand's Bulbs, twenty years ago, but it has been verified here many times since, and the choice varieties are always treated in this

Possibly different strains are different in this respect. The bulbels of some of California strain, sent out by Luther Burbank, the great hybridizer (as he has been called,) have succeeded pretty well by planting the next spring after taking up, though the hard shell was usually cracked. by pressing gently between the finger and thumb before planting.

The sentence with which L. E. R. closes is also appropriate in this closing: "I know of no other bulb that so well repays for the small amount of care required." R. J. B.

COMFORTING: A.-Why so downcast, doctor?

D.-A patient whom I began to treat yesterday has just died.

A.—Oh, don't worry about that, doctor: he might have died anyway-Fliegende Blaetter.

THE GOLDENROD SCARE.

N our last issue was noticed the improbable theory promulgated by the Wisconsin State Veterinarian that goldenrod is poisonous to horses. It is not understood that any particular species of goldenrod is supposed to be the cause of the trouble, the blame being laid to the whole family as a "bad lot." It is difficult to understand why any competent person should adopt so unscientific a theory. But the subject is now again noticed to introduce some statements of a practical nature, and very applicable, made' by Mr. W. V. Brown, of Beaver Dam, (Wis.,) in a late issue of the Western Rural. "I cannot agree with him," he says, referring to Dr. Scott, the state veterinarian, on goldenrod being poisonous to horses, or other farm animals, for these reasons:

We, on our farm, always every year, once or twice, mow out our fence rows, which mowings contain much These are all carted to the barns and fed with other hay to horses and other stock since I can remember, and no harm has ever come from it.

Then too, a year ago, I spent nearly two months at and near Danbury, Connecticut. While there I had the feeding and care of a fine little horse most of the The hay which was fed the horse was natural meadow hay, contained a good part of goldenrod, should think safe to say one-quarter. Was cut with a hand feed cutter in one-half inch lengths and was eaten clean each time. The horse is living yet and fat and sleek.

On one side of our farm is a rail fence belonging to a neighbor. Along these fence corners there is an abundance of golden rod, several varieties, season being very hard on our pastures, colts and horses that grazed in a pasture along this fence all this season reached through and over this fence, and ate the goldenrod that grew there just when they wished. Probably there has not been a day this season that they did not eat some. They are in good flesh and healthy at this writing."

Thousands of testimonials like the above could be obtained, in every state in the country, for the trouble of getting them, but no thoughtful person would need them to arrive at a satisfactory conclusion to this question.

CRANBERRIES IN CHOLERA.

Dr. Goriansky declares that the use of the pure and fresh juice of raw cranberries, given freely, either undiluted or with an equal part of water, is an excellent means means of relieving the thirst and vomiting peculiar to cholera. cases in which ice and narcotics failed to make the slightest impression, the cranberry juice in small but repeated doses rapidly checked both vomiting and nausea.-Scientific American.

"What did you do to get here?" inquired the visitor at the workhouse.
"Nothing," replied the sad-eyed inmate, "I am doing time for vagrancy."

GREAT CHANCE TO MAKE MONEY.

GREAT CHANCE TO MAKE MONEY.

MR. EDITOR:—I wish to tell others of my success these hard times. We had so many fires and so many valuables burned, being out of a job, I decided on selling the new family fire-proof Deposit Case for storing deeds, mortgages, notes, receipts, money and valuables. I ordered a sample family size from the World Mfg. Co., Columbus, O, Sold six first day, right around home, at a Profit of \$24, last week I made \$67. They are nice and so cheap all can buy. The firm make aluminum goods and other good sellers for agents. I shall make \$1,000 clear this winter sure. Reader, write the company for a job.

JAY COX.

A REMEDY AGAINST FLEAS.

All persons who have lived in a house which has become infested with fleas in summer will know how these creatures inhabit the floor by preference, and how they will jump upon the legs and ankles of every one who passes near them. Taking advantage of this fact, some years ago, when the lower floor of McGraw Hall, of Cornell University, was badly infested by fleas, which had come from animals temporarily kept there in confinement, Prof. S. H. Gage invented the following ingenious plan. He had the janitor put on a pair of rubber boots, and then tied sheets of fly paper, with the sticky side outward, around the legs of the boots. The janitor was then to patrol the lower floor for several hours a day. The result was gratifying and rather surprising. The sheets of fly paper soon became black with fleas and had to be changed at intervals, but by this means the building was almost completely rid of the pest, with a minimum of trouble to every one except the janitor.-Insect Life.

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GARDEN ANNUALS.

LOWERS are true friends of all, and we look with amazement at the person who cannot find some amount of pleasure in their study. From my earliest childhood, flowers have been my chosen friends and they have taught me many beautiful and helpful lessons. While I have been interested in all of the novelties that have come to me, and while many of them have been of extreme grace and beauty, my affections for the oldfashioned flowers has not wavered. As there are "no friends like true friends" so there no flowers like the old flowers, the flowers of tender memory. My favorite flowers among the garden annuals have been and are the favorites of all who love flowers at all. How could one not love the sweet pea? It probably ranks first in the affections of thousands. ways have a row of sweet peas because of the delicate, graceful beauty of the flower, both in its form and in its various tints and colors. I put the seeds into the ground as early as the first day of April. I give them good, rich soil and plant them fully six inches below the surface but I do not cover them to that depth at once. It is better to dig a trench with the hoe and to cover the seeds to the depth of about three inches at first and to fill the trench gradually after the peas show above the ground. Deep planting is the best safe-guard for the tender roots in time of drought. Wire netting is an admirable support for the vines to cling to.

Nasturtiums are another most satisfactory annual. They are of so easy culture and give such an abundance of brilliant and variegated bloom that no flower garden is complete without them. A common impression prevails that they thrive best in very poor soil, but I have not found this to be true in my own experience. I always give them good, fairly rich, soil and have found that it has paid to do so.

I grow Phlox Drummondii because it is such a splendid plant for massing. In the climate in which I live, Massachusetts, it produces a much finer effect than the verbena. The flowers of Phlox Drummondii are peculiarly beautiful in all their varied tints and distinct colors. The fringed and variegated kinds are extremely beautiful. Its easy culture adapts it to the wants of the amateur and it is so inexpensive that it is within the reach of all. Seeds sown in the open ground early in May will yield many flowers before summer is gone. I always grow pansies because no flower can equal their soft, velvety effects in purple and gold. No flower appeals more strongly to the imagination. I usually buy blooming plants in the spring for very early flowers, but in July and August I sow seeds for fall verized, soil and sow them in some situa-

of the time. The pansy loves coolness and moisture. Young plants covered with leaves in the fall will keep green and alive all winter and will bloom finely the following spring.

The marigold is one of my favorites because of a fondness for yellow flowers. The big, orange yellow, double marigolds are very brilliant and handsome, while the yellow and velvety brown variegated kinds are striking and beautiful flowers. They will grow in almost any soil or location, but they give better results when they have a sunny situation and good soil, free from stones and weeds.

I always have hollyhocks because they are beautiful in themselves and because they are associated with my childhood. Some of the double varieties are as perfect and beautiful as a rose. No plant is better for a background or for concealing an unsightly fence. It is not easy to secure blossoms from seeds the first year they are sown, unless one has a greenhouse or some other facility for raising young plants very early in the season.

The portulaca is another very pretty little flower for growing in masses. It is a flower beneath the notice of some loftyminded persons, but it has a beauty and a value not to be despised by lovers of old-fashioned flowers. It grows so freely and blooms so profusively. No end of vitality is bound up in its tiny, shining seeds which will germinate in almost any soil. Hundreds of plants will come from self sown seeds. Mix the seeds with a little sand and scatter them on the bed and then sift a very light covering of soil over them.

Poppies are one of the annuals one could not do without. The comparatively new Shirley poppies are very pretty and showy. Sow the seeds in fine, light, soil covering them very lightly. Poppies delight in a sunny situation. They are of little value as cut flowers, because they wilt so soon, and their odor is offensive to sensitive nostrils. But they are fine as glowing bits of color in the garden.

No list of annuals would be complete without the mignonette. It is the shyest, most unassuming, and at the same time one of the best beloved of flowers. Its fragrance is exquisitely delicate, and there is a certain graceful and refined beauty in its flowers not common to showier plants. A spray or two of it gives the finishing touch to a bouquet. Sow the seeds in the open ground about the middle of May.

There is something so refreshing in the great cool blue, Convolvulus or morning glory that it is one of the most highly prized of all our climbing and flowering vines. It grows so rapidly and blooms blooming. I give them rich, finely pul- in so lavish profusion that three or four plants will give hundreds of flowers, while tion in which they will not be exposed to it is of the easiest and simplest culture.

the fierce heat of the mid-summer sun all Add salpiglossis, balsams and asters to the list. All will thrive in ordinary garden soil and each has a distinct beauty of its own. Their culture is so simple that no direction other than those given on the seed packets are needed.

J. L. HARBOUR.

ADVANTAGES OF SUBSOILING.

THE attention of farmers and garden. ers is being turned to the good effects of deep plowing or subsoiling. Not subsoiling land once for a life time, but renewing the operation every three or four years. The Division of Agricultural Soils, a new division of the Bureau of Agriculture, is encouraging the practice and investigating its effects. following is from the last report of the Secretary of Agriculture:

Public attention has been called to the fact, for example, that irrigation has frequently to be resorted to to solely for the lack of proper preparation of the soil to receive and hold the winter and spring rains. The gradual destruction by cultivation of the humus stored in the prairie soils has made them less and less retentive of moisture, and thus created the necessity for different methods of culture which shall enable them to hold water for the crops. The diminished rainfall several years in succession has also thoroughly disposed the farmers of the west to consider any well conceived measures or recommendations for the amelioration of existing conditions. The work of the Division of Soils in calling attention to and emphasizing the fact that at least a partial remedy for this condition is to be found in subsoiling, has attracted widespread attention and been followed by most gratifying results. eral of the experiment stations, notably that of Nebraska, have undertaked similar investigations and made practical studies of subsoiling, and the practice is gaining in favor so rapidly that leading plow manufacturers are making plows especially for subsoiling purposes.

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A BEAUTY.

WOULD like to say a word in warmest praise of the new silver edged Abutilon Souvenir de Bonn. It is simply a beauty. It would be well worth cultivating for its foliage alone. Several of my friends have declared it to be the handsomest plant I have in my window garden. Its leaves are a beautiful tint of green, edged with a silvery white, while the flowers are large and of a fine tint of yellow with scarlet stripes. I have had a large experience with the abutilon but none has given me greater pleasure than Souvenir de Bonn. It is a free grower and free bloomer, and adds immensely to the beauty of the window garden. The merits of the abutilon are not fully known and appreciated or it would be more generally cultivated. Begin with the Souvenir de Bonn if you have never cultivated this beautiful plant. TRIS.

An advertisement of the Hartford Climbing Fern appears this month. It is the choicest, most elegant decoration known and the vicinity of Hartford, Ct., is the only place that it grows.

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I am glad to notice in the floral papers that people are beginning to see what a fine plant the Hibiscus Sunset has proved to be. Here, where it is at home, it begins to bloom the last of May and until the heavy frosts come, it is loaded with big, deep, creamy, yellow flowers, twentyfive or thirty often being open at one time on one plant, and every one as large as a saucer. They remain open all day, closing at sunset. All the other hardy hibiscus remain open just a few hours and are done. M. E. C. PEARCE.

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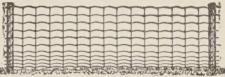
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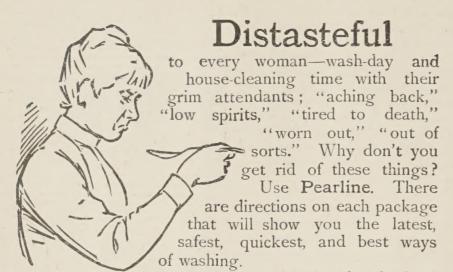
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INDIAN AZALEAS.

A PAPER on Azaleas, read before the Toronto Gardeners' and Florists' Association, by Thomas Manton notices the treatment that should be given newly imported plants. As that part of it relating to potting and subsequent care applies equally well to the care of the plants generally, and as it contains a gread deal in a small space, it is here reproduced for those interested in this plant. The "plants," he says, "should be potted in the smallest size pots they will go into without breaking their roots. The best soil to use is peat, but as that is hard to obtain here, I use a mixture of thoroughly rotted hops and light sandy loam in equal parts. There should be plenty of drainage in the pots, and the soil should be rammed in very tightly. After the plants are potted they should be placed in a cool house, with plenty of shade on. They should be syringed lightly every bright day and carefully watered. They like plenty of water, but must not get soddened. Deutsche Perle, Punctulata, and other varieties intended for blooming at Christmas, must be placed in a warm house by the end of October; but plants for spring blooming should be kept at a night temperature of about 40° and have plenty of air on warm days. All growths that start from beside the bloom buds should be carefully picked out. Nearly all the varieties will stand a little forcing; and with care and a little judgment they may be had in bloom from the middle of December until the middle of May. After they have done blooming they should be placed in a warm house, syringed every day until they make their growth and begin to form their buds. While they are growing, all rank growth should be stopped so as to keep them shapely. When growing freely a little clear soot water is a great help to them. After they have made their growth, a cool, airy house, well shaded, is I think, the best place to summer them in. They must never want for water, and should never be over-potted."

It may be added that in September the plants should be reported and taken into the greenhouse, and cared for as above described.

IPOMŒA SINUATA.

AS many lovers of flowers are writing to me to learn how to treat Ipomœa sinuata, I must ask you to answer through the MAGAZINE. Here, in Louisiana, the roots are hardy, even the terrible freezing weather and snow of last February did not hurt them. An exchange in Illinois wrote to me that, as her plant was late, it did not mature seed. After a hard frost she put it in a tub of soil in the cellar, just noticing it once in a while to put a little water on to keep the roots from drying out. After spring opened, she turned it out in the garden and it bloomed all summer and till late in the fall. This vine is very attractive on account of its fine lace like foliage, its white flowers that remain open all day, its large, queer looking green seed capsules that later open into a perfect star, as foliage flowers. Green and ripe seed are all on it at one time. It is a remarkable vine.

M. E. C. P.

BUSINESS COMMENT.

IF THE BABY IS CUTTING TEETH, be sure and get that old and well-tried remedy, Mrs. Winslow's Soothing Syrup for children teething. It soothes the child, softens the gums, allays all pain, cures wind colic, and is the best remedy for diarrhoea.

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